COLLECTING IN LAPPLAND, JUNE & JULY 2004

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I am standing on a boggy path between two stands of Bottle-brush Spruces clutching a net with a four metre handle. The water is just above the ankles of my Wellingtons and a cloud of mosquitoes buzz round my head, kept at bay by deet formulated spray which I have applied liberally to my skin and the rim of my hat. It is just gone midnight and broad daylight as I wait, fired up with adrenaline, for the next *Xestia skraelangia* to dash wildly across the open space between the trees. Here comes one! A small black Swedish meatball of a moth against the sky zigzags at what seems like three hundred miles an hour and then disappears against the foliage before I can make more than two clumsy steps in its direction. I can't remember when I have had more fun trying to catch moths!

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Ever since I read Barry Goater's account of his visit to Lappland in the *Record* I had been fired with enthusiasm to make the trip myself, and in late June 2004 I set out in a camper van with Alec Harmer. This year it was not possible to make the ferry crossing to any of the Northern ferry terminals and we had to settle for the Hook of Holland and a long drive. We arrived in Holland at midnight on Saturday 26 June and drove through depressingly flat farmland that varied little between Holland, Northern Germany, Denmark and Southern Sweden. However, where good roads enabled us to reach the Linnaen university town of Uppsala and rendezvous with Dr Nils Ryholm by midmorning on 28 June. Nils very kindly gave us detailed information concerning localities and habits of the northern butterflies and moths and kept in touch with us by mobile phone throughout our trip. It was reassuring to know that someone was looking out for us.

Having left Uppsala late on Monday we drove north in search of a coastal site for *Proxenus lepigone* (Möschler). We failed to find it, probably because we arrived too late after being held up by extensive road works. It is apparently normal to find this species, together with *Athetis pallustris* (Hb.), flying over *Lathyrus maritimus* at dusk. It was already daylight at 3 am, when we reached the beach and the only moth we saw was *Chortodes elymi**. Later that day Nils phoned to suggest that we slowed down as it was still snowing in Abisco and we would be better to give the far north a couple more days for insects to emerge. We took this advice and diverted inland for a while before trying, once more without success, for *lepigone* at another coastal locality.

We crossed the Arctic Circle at 8 am on 1 July and were surprised to see *Leptidea sinapis* (or possibly *reali*) flying round our feet as we took photographs of the sign announcing the Polar Circle. It seemed strange to see familiar butterflies of our southern woods in this alien setting, but we were to become accustomed to this, encountering *Anthocharis cardamines*, and *Boloria euphrosyne,* amongst others, well inside the Arctic Circle.

* The authors of the scientific names of recorded species are given in Appendix 1.

It was in the early evening of the same day that we reached our primary destination of Jukkasjarvi, 'the Hamstreet of the North'. The classic locality we had been told to look for, by both Barry Goater and Nils Ryholm, is some five or six kilometres from the village of that name along an unmade track. The countryside is partly bog and partly woodland dominated by 'bottle-brush spruce' with some sallows and birches and an under storey of *Betula nanata* with *Ledum palustre* and various *Vaccinium* species. These spruces are for the most part no more than six to eight metres high, but are up to three hundred years old. The poor conditions and short growing season produces extremely dense and valuable timber which has recently lead to increased felling and a real threat to the area. We parked the van in a likely looking glade and went to explore, quickly realising that we had hit upon the exact spot illustrated in *Nordens Ugler*. By the time we returned to our campervan another collector, Ludwig Weiss, had arrived and over the next few hours the 'circus' where we had stopped became crowded with a variety of vehicles and tents. Eventually there were ten or eleven entomologists present from Germany, Denmark and Southern Sweden, all extremely helpful and some known to us from the literature including Michael Fibiger, Bengt Bengtson and Göran Palmquist. I was told by Ludwig Weiss, from Munich, that on his three previous visits here he had encountered much warmer and drier conditions. It was warm enough; if it were not for the mosquitoes it would have been comfortable in shirt sleeves, but it was certainly wet. The main track through the wood was a running river, where in places it was necessary to wade with the water threatening our boot tops.

Collecting night flying moths in daylight was a new and strange experience and it took sometime to get to grips with the techniques. Our long net handles were most useful; in fact several people called out to us that we must have been talking to Barry Goater as we were so well prepared! It was not that easy to net insects with them, however. The 'highfliers' were nearly always just out of reach and often flew extremely fast. As an example, on one night between 9 pm and 3 am I caught two *X. skraelangia* and Ludwig solemnly declared I was 'Prince of the evening'! Over the time we were there we learned to distinguish the species by their behaviour, *X. skraelangia* and *Anartomima secedens* flew high, fast and erratically, *secedens* occasionally showing a flash of yellow; *Xestia borealis*, the most desirable of the *Xestias* at this site, flew very high but comparatively slowly. *Xestia speciosa* and *X. gelida* flew at mid height but fast and *Cosmtriche lobulina* flew high, fast and straight. A few days later, when *Xestia laetabilis* and *X. distensa* were out, I found that although both of these very similar species flew reasonably slowly at mid height, there were subtle differences in their behaviour which suggested to me that they were indeed two species. When we visited Stig Torstenious on our return journey, I discussed this with him and learned that he had first suspected there was a new species, *distensa*, for the same reasons. (It seems that although *X. distensa* was separated from *laetabilis* in 1851, the species was 'lost' for many years and rediscovered only in the 1960s.)

We are, of course, not usually able to observe noctuid moths going about there normal business as in our latitudes we only see them acting artificially as they are

attracted to light or baits. It seems reasonable to suppose however, that the same differences in flight are present in populations living south of the Arctic Circle and encountering darkness. Certainly some species that have been caught in the Arctic and taken south have been observed to behave in the same way, flying at the same time of night and in the same basic pattern. (Göran Palmquist, *pers. comm.*). The relationship of noctuid moths with bats has been summarised by J. Rydell and M. R. Young (*M.B.G.B.I. Volume 4, Part 1* Harley Books, 2002) and the evasive flight patterns utilised by noctuids to escape from bats once they have been detected has been explained. We did not see any sign of bats, or for that matter of predation by birds. It would seem therefore that the different flight patterns we observed were irrespective of whether a threat was present. It is difficult to avoid speculating on whether those species such as *X. skraelangia,* which employ a flight pattern which seems costly in terms of energy, flying fast and zigzagging constantly, are forced to do so because their ability to detect bats is poor compared with some other species.

We spent the nights of the 1, 2 and 3 July at Jukkasjarvi and in addition to the good company and interesting moths were rewarded with views of nesting Pygmy Owls, *Glaucidium passerinum,* which were the object of a film crew's attention and nightly visits from a group of Siberian Jays, *Perisorcus infaustus*. These colourful and inquisitive birds showed no fear of humans and seemed to be keenly interested in our activities, flying as a group of a dozen or so, to within a few feet of us. We saw some Reindeer in the area although not the large herds which, together with felling, are responsible for deterioration of the habitat.

During the day we visited several local areas, in particular the dry bogland near Kalixfor to the south of the iron town of Kiruna and the extensive wet bogs at Krotvik some fifteen kilometres to the north west. Kiruna itself came into existence at the start of the twentieth century when the railroad to Narvick was built and the steady deconstruction of the mountain of iron ore began in earnest. Huge ore trains regularly leave for the Norwegian coast and I speculate that a substantial part of the Swedish economy might be dependent on this one town.

On the extensive bogs we found a rich variety of insects including *Synanthedon culiciformis* and *S. polaris* to pheromones supplied by Nils Ryholm and *Udea inquinatalis* and *U. decrepitalis* which were commonly put up. The fritillaries *Boloria eunomia*, *Boloria freija* and *B. frigga* were not uncommon and the little blue, *Vacciniina optilete* was also frequent. Clumps of Labrador Tea, *Ledum* had a distinctive and pleasant scent and attracted *Sympistis heliophila*, *Anarta cordigera* and *Anartomima secedens*. I had hoped to find the Arctid, *Pararctia lapponica* (Thunb.) here, but must put down my failure to the lack of sun during our visits to this site, as others we met found it when the sun was shining.

After these days at Jukkasjarvi we moved on to Abisco in the extreme north-west of Sweden and only a few miles from the border with Norway. Abisco is a centre for mountain walking and is equipped with a modern tourist facility offering accommodation as well as walking equipment. There are hotels in the area, a railway station and camping facilities. The road up from Kiruna follows the huge lake of Torneträsk for the last 50 kilometres or so, and mountains rise on both the south and

north of this lake with several peaks in the 1150 metre range and some rising to 1700 metres. There are a number of desirable moths and butterflies in these mountains, in particular those to the north of the lake which are difficult of access. It appears that the trek round the head of the lake and back would take some days; we saw no ferries offering crossings and the helicopter flight available from Abisco was too expensive for us to make the short trip. We did meet one collector who carried a canoe on the roof of his car with the express intention of crossing the lake. I tackled him about the danger while he proudly showed me a series of *Xestia lyngei* (Rebel) from these mountains. He replied that that was why he would take no passengers! It seems the lake normally becomes calm about two in the morning and there is then an hour to make the mile crossing. Collectors who regularly work the area take a small tent and equipment to stay in the mountains and hire the helicopter to take them and pick them up after a few days. There is a National Park extending into the mountains to the south of Abisco where collecting is not possible, so it is important to consider the position of the park's boundaries.

In the event we contented ourselves with the south side, walking up to the lower slopes on 5 July where we encountered *Colias nastes*, *Erebia pandrose*, *Oeneis norna* and many *Rheumaptera subhastata* amongst others. The weather was reasonable but afterwards we wished we had gone higher on that day, as when we returned to Abisco on the 7th we encountered poor weather. On the second day in the mountains we used the cable lift from Abisco to ascend to nearly 1200 metres and then walked across the top of Njulla down to Borklieden and back along the road to Abisco. For much of this twenty kilometre walk it was raining and cold; there was still plenty of snow around us, but nevertheless we were treated to beautiful displays of flowers, especially the vetch *Astragalus alpinus* and the beautiful Mountain Pansy *Viola lutea.* There was a short spell of brighter weather sufficient to move *Pieris napi* in its spectacular dark form, *adalwinda* and Alec was able to find *Colias nastes* at rest low down amongst the short vegetation. The final part of the walk down to Borklieden was alongside a wildly leaping torrent where we often felt endangered as the precipitous path teetered on the edge of the gorge the river had cut. Numerous *R. subhastata* got up in front of us as well as *Xanthorhoe spadicearia* and as we came back into a belt of birches I failed to net a Plusia which was almost certainly *Syngrapha hochenwarthi* (Hochenwarth).

Although our mountain excursions were undoubtedly hampered by poor weather, other collectors we met had used their time to better effect, finding cocoons of *Acerbia alpina* (Quensel) under rocks and securing several of the rarer mountain species. We were also told that *A. alpina* males will assemble to a female *Arctia caja* (L.) taken to the mountains for this purpose and this may also be true for the rarer and higher occurring *Holoarctica fridolini* (Torstenius).

One interesting feature of the journey from Kiruna to Abisco was the huge number of Geometrid larvae that had denuded nearly every birch for some fifty miles in a belt which was at least two miles wide. When there were no more leaves on the full sized birches the larvae descended to the *Betula nanata.* I collected some of these larvae and confirmed the species as *Epirrita autumnata*. There seemed to be

comparatively few birds to exploit this resource, mostly Fieldfares, *Turdus pilaris* and Bramblings, *Fringilla montifringilla.* We wondered what would happen to the insects which might otherwise have fed on the birch a little later in the season, the birds that would have fed on those larvae in turn, and the trees themselves. The abundance of larvae was phenomenal, I counted sixty drowned larvae in one puddle no bigger than a boot impression. Later on in our journey we discussed this with Stig Torstenious who told us the birches would not survive the following winter and would eventually regenerate from suckers. In the meantime the microclimate under the trees would be distorted and more erosion would take place. Apparently this is not an uncommon occurrence in Northern Sweden with one area being devastated in most years.

Both Nils and Michael Fibiger had told us of a place in Norway about two hundred miles further north where a road through the mountains would take us high enough for *Colias hecla*, *Boloria chariclea* and *Boloria improba* (Butler), without having to climb. We decided to investigate and drove north through Finland on the night of 8 July. As we entered Norway the sun at one a.m. was directly in our faces and it was so difficult to drive even in sunglasses that we decided to stop for a few hours. Unfortunately it was the only sun we were to see in Norway and it was soon raining once more. We spent the afternoon failing to find *Agriades glandon* (Prunner) in the vicinity of Aalta, although we did find the interesting subspecies *polaris* Courv.of *Lycaena phlaeas.* We reached the mountain road some five kilometres south of Gargia in the early evening. Getting the camper van up the hill did not prove easy as the road was little more than a rutted track in parts, but we were eventually able to stop at sufficient altitude a little way from the top.

We were immediately greeted with many *Zygaena exulans* on the flat limestone mountain top and a sight of our first *Colias hecla.* While exploring a small wooded valley I was alerted by a sound like the slap of yacht rigging and sure enough there was a Bluethroat, *Luscinia svecica* on a twig only a few feet away from me. It soon stopped its contact call and treated me to its full song before moving on.

The following morning was overcast but not raining and we had about three hours collecting before the weather clamped down again. During this period we roamed over limestone hilltops reminiscent of parts of the Burren in County Clare apart from the much greater altitude and surface torrents cutting deep gorges. Small numbers of Golden Plover, *Pluvialis apricaria* and Ringed Plovers, *Charadrius hiaticula* were encountered near small mountain tarns to remind us of the birds that overwinter on our local marshes in Lymington. There was quite a lot of snow still on the hills, but we found *Colias hecla*, *Boloria chariclea* and *Erebia disa* flying within a few feet of snow fields and despite the treacherous conditions underfoot were lured into some full blooded chases after *hecla* which flew very fast, straight and low. Amongst the moths *Glacies coracina* and *Hadula melanopa* were frequent and we had three *Xestia quieta* including one lovely dark example, a *Syngrapha parilis* and *Pygmaena fusca.* Perhaps rarest of all was a single *Psychophora sabini*, a geometrid not dissimilar to a washed out *coracina.* The weather now clamped down and we retreated first to the van and then back towards Jukkasjarvi through alternate lashing rain and swirling fog.

The drive was uneventful although we did stop on the border between Finland and Sweden shortly after it stopped raining and attempted to find *Syngrapha hochenwarthi* (Hochenwarth). There was still no sun and although we tried pheromones in a flower rich meadow it was without success. Late in the afternoon we were more successful when we had *Synanthedon polaris* to pheromone at a roadside bog near Vittangi some miles north of Kiruna.

We reached Jukkasjarvi in the early evening of the 11 July for one last night and found cool overcast conditions following the rain of the day. We were the only people there and found little sign of the 'high flyers' we had previously spent so long trying to catch. *Diarsia mendica* and *Xestia gelida* swarmed on sugar ropes along with *Hyppa rectilinea.* In the woods three species of *Xestia*, *speciosa*, *laetabilis* and *distensa* provided thrilling sport. All three were essentially medium speed and mid height, all with subtle differences in their behaviour and all caught with a net on a three metre handle. Geometers were conspicuously few in number with only a few of the spectacular *Thera serraria* which had been a feature of our visit a week earlier. It is clear that in these northern areas the short season advances very rapidly.

Over the next couple of days as we drove south we encountered interesting butterflies and moths whenever the weather was reasonable. In particular, a roadside stretch of flowery meadow near Person produced *Erebia ligea* just emerging together with *Idaea serpentata* in plenty and *Autographa macrogamma* amongst others. The land between Lappland and Stockholm is essentially a flat conifer forest 800 miles long, punctuated with bogs, lakes and small areas of flowery meadows near the occasional town or village. Elk showed themselves most usually at dusk and at dawn as we returned to latitudes where these existed and the lakes afforded glimpses of Whooper Swans, *Cygnus cygnus* and Black-throated Loon *Gavia arctica*.

We enjoyed the hospitality of Stig Torstenius in Stokholm on 13 July and then rushed south through the rain to arrive back in Harwich on the fifteenth. Altogether it had been a fascinating trip. We had met many friendly and helpful entomologists who had, without exception, treated us with great kindness; seen a high proportion of the insects we had hoped for and gained some insight into the ways of the far north. As with so many entomological trips, once is not enough and I look forward to returning with equipment to properly tackle the mountains and time to reach Nordcap at the very top of Europe.

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Appendix: Lepidoptera recorded in Sweden and Norway 24 June to 14 July 2004

In the following list, Swedish and Norwegian provinces are abbreviated thus:

Sweden

VR: Värmland	ÅN: Ångermanland	TO: Torne Lappmark
DA: Dalarna	NB: Norrbotten	
HS: Hälsingland	LY: Lycksele Lappmark	Norway
ME: Medelpad	LU:Lule Lappmark	TRI: Indre Troms

The sequence of species is based on Karsholt & Razowski (1996). Subspecific names follow the various publications listed in 'References'. All dates are in 2004.

Hepialidae

Pharmacis fusconebulosa (de Geer), NB: Near Person in flowery meadow, 12.vii.

Zygaenidae

Zygaena exulans (Hohenwarth) ssp. *vanadis* Dalman, Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.and10.vii. This large form was flying abundantly over the short turf.

Sesiidae

Synanthedon culiciformis (L.), TO: Krokvik, 06.vii, several to pheromone lures.

Synanthedon polaris (Stdgr.), TO: Krokvik, 06.vii, two to pheromone lures. TO: Vittangi, one to pheromone in a roadside bog on 11.vii.

Pterophoridae

Platyptilia pallidactyla (Haworth), NB: Langsviksudden, 30.vi, abundant by the roadside flying in midnight daylight. Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., abundant in afternoon.

Hellinsia osteodactylus (Zeller), TO: Kalixfors, 02.vii, put up in the day from goldenrod on dry verges. Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., one or two seen.

Pyralidae

Pyla fusca (Haworth), LY: Glommertrask, 29.vi, several at dusk.

Polopeustis altensis (Wocke), TO: the lower slopes to the southeast of Abisco, 05.vii, very common on gravel by the side of the road and railway track in brief sunny spells.

Gesneria centuriella (D.& S.), Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., one caught.

Eudonia murana (Curtis), TO: Krokvik, 04.vii, one taken. TO: Njulla mountain, to the west of Abisco, 07.vii, one caught in poor weather at 1300m. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.vii.

Crambus lathoniellus (Zincken), Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., several.

Catoptria maculalis (Zett.), TO: Krokvik, 08.vii.

Udea inquinatalis (Lienig & Zeller), TO: Jukkasjarvi, 01-05.vii. TO: Kalixfors, 02-08.vii. TO: Krokvik, 08.vii. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.vii. One disturbed.

Udea nebulalis (Hb.), AN: Nasanget Nordingra, 13.vii.

Udea decrepitalis (H.- S.), LY: Glommertrask, 29.vi, several at dusk. LU:Bjorkberget, 01.vii. TO: Puoltikasvaara, 01.vii. TO: Jukkasjarvi, 01-05.vii. TO: Krokvik, 04-08.vii.

Mutuuraia terrealis (Tr.), HS: Hornslandet beach two flying at 03.00. LY: Glommertrask, 29.vi, one netted during night.

Anania funebris (Ström), LY: Djupsjonas, 29.vi, several flying by roadside in light woodland. NB: Near Person, several in flowery meadow, 12.vii.

Lasiocampidae

Eriogaster lanestris (L.), TO: Jukkasjarvi, 01.vii a nest of larvae on *Betula nanata.*

Cosmtriche lobulina (D.& S.) ssp. *junia* Saarenmaa, TO: Jukkasjarvi, 01-05.vii, one male and one female of this dark form.

Hesperidae

Pyrgus andromedae (Wallengren), TO: the lower slopes to the southeast of Abisco, 05.vii. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii., three seen.

Pyrgus centaureae (Rambur), TO: Jukkasjarvi, 05.vii, one seen. TO: Krokvik, 08.vi, one near the road.

Pieridae

Leptidea sinapis (L.), LU: Puoltikasvaara, 01.vii.

Anthocharis cardamines (L.), TO: Jukkasjarvi, 02.vii, one male on the track

Pieris napi (L.), LU: Puoltikasvaara, 01.vii, roadside flowery verge. TO: Jukkasjarvi, 01-05.vii, one or two on the track leading to the woods. TO: Kalixfors, 02.vii, frequent by roadside. TO: Krokvik, 04-8.vi. Presumably these lowland insects were all ssp. *bicolorata* Bj. Pet. and the following from the mountains were ssp *adalwinda* Frühstorfer, but it was difficult to see much difference in rubbed specimens. The females were heavily scaled with greenish black while the males were milky white with strongly marked veins on the underside. TO: the lower slopes to the southeast of Abisco, 05.vii. TO: Njulla mountain, to the west of Abisco, 07.vii, several at rest with a few males flying after a few minutes sun in an otherwise relentlessly poor weather day. TO: Karesuando, 10.vii, disturbed in flowery but wet meadows. We have subsequently raised broods of both forms which are distinct in fresh insects.

Colias nastes Boisduval ssp. *werdandi* Zett., TO: the lower slopes to the southeast of Abisco, 05.vii, several flying fast and low when the sun briefly shone. TO: Njulla mountain, to the west of Abisco, 07.vii, several at rest on the ground amongst grass after a few minutes sun. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.vii. One seen.

Colias palaeno (L.) ssp *lapponica* Stdgr., and ssp. *europome* Esper, The more northerly insects were marginally smaller and greyer and presumably are *lapponica*, but the distinction was unclear to us. LU: near Bjorkberget. TO: Puoltikasvaara, 01.vii. TO: Jukkasjarvi, 02.vii, one flying rapidly past our camp site. TO: Krokvik, 04.vi, one seen by roadside. TO: the lower slopes to the southeast of Abisco, 05.vii, one seen. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09 and 10.vii.. A few seen. NB: Near Person in flowery meadow, 12.vii.

Colias hecla Lefébre ssp. *sulitelma* Aurivillius, Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. Several flying low and fast.

Lycaenidae

Lycaena phlaeas (L.) ssp. *polaris* Courv., Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., a female secured.

Lycaena virgaureae (L.), ME: Skillinge, 13.vii, several.

Plebeius idas (L.) ssp. *lapponica* Gerh.,TO: the lower slopes to the southeast of Abisco, 05.vii, flying commonly by the road and railway. We examined all males for a spur on the front tibia and confirmed non were *P. argus* (L.)

Vacciniina optilete (Knoch), NB: Stavikudden, three miles north of the Polar Circle flying in open, dry bog. TO: Kalixfors, 02.vii, in dry areas. TO: Krokvik, 04.vi, at the edge of the wet area. TO: the lower slopes to the southeast of Abisco, 05.vii, a few on the way up the mountain.

Aricia eumedon (Esper) ssp. *borealis* Wahlgren, ME:Stockvik, several on a flowery bank by the roadside.

Polyommatus semiargus (Rottemburg), NB: near Person, 12.vii., several seen.

Polyommatus amandus (Schneider), ME: Alnön, Pottano, 13.vii. Several found at rest in the evening including *f. isias* Frühstorfer.

Polyommatus icarus (Rottemburg) ssp. *septentrionalis* Fuchs, Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii.

Nymphalidae

Brenthis ino (Rottemburg), NB: near Person in flowery meadow, 12.vii. Several fresh specimens seen.

Boloria eunomia (Esper) ssp. *montana* Bj. Pet., TO: Kalixfors, 02.vii, in wet boggy areas. TO: Krokvik, 04-08.vi, in the wet bog.

Boloria euphrosyne (L.) ssp. *lapponica* Esper, NB: Langsviksudden, 30.vi, one at rest. TO: Jukkasjarvi, 01-05.vii, frequent in open woodland. Ssp. *septentrionalis* Nordström., TO: the lower slopes to the southeast of Abisco, 05.vii, near the roadside.

Boloria selene (D.& S.) ssp. *hela* Stdgr., ME:Stockvik, several on a flowery bank by the roadside.

Boloria chariclea (Schneider), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii., several seen.

Boloria freija (Thunb.), TO: Kalixfors, 02.vii, in wet bogs. TO: Krokvik, 04.vi, a number seen.

Boloria frigga (Thunb.), TO: Jukkasjarvi, 01-05.vii, a few. TO: Krokvik, 04.vi, several noted. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. A few only.

Boloria aquilonaris (Stichel) ssp. *scandinavica* Bj. Pet.,TO: Njulla mountain, to the west of Abisco, 07.vii, one amongst rocks during the brief sunny spell. Norway, TRI: 5 kms south of Gargia, three.

Aglais urticae (L.) ssp. *polaris* Stdgr., TO: Kalixfors, 02.vii, larvae on nettles by the roadside. There did not seem to be enough nettle to support the larvae and we saw very little nettle elsewhere.

Melitaea athalia (Rottemburg), ME: Tynderö, 13.vii. Common in light woodland.

Limenitis populi (L.), ME: Tynderö, 13.vii. Two or three seen.

Coenonympha pamphilus (L.), NB: Brandon.

Aphantopus hyperantus (L.), AN: Nasanget Nordingra, 13.vii.

Erebia ligea (L.), NB: Near Person common in flowery meadow, 12.vii.

Erebia embla (Thunb.), TO: Jukkasjarvi, 01-05.vii, one or two seen. TO: Kalixfors, 02.vii, in wet bogs. TO: Krokvik, 04.vi, in wet area.

Erebia disa (Thunb.), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. One or two seen.

Erebia pandrose (Borkhausen), TO: Kalixfors, 02.vii, common in drier areas. TO: the lower slopes to the southeast of Abisco, 05.vii, one or two seen.

Oeneis norna (Thunb.), TO: the lower slopes to the southeast of Abisco, 05.vii, one taken.

Oeneis bore (Schneider), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. One or two seen.

Oeneis jutta (Hb.), TO: Krokvik, 04.vi, one seen.

Thyatiridae

Ochropacha duplaris (L.), LY: Glommertrask, 29.vi, one to wine rope and two netted.

Drepanidae

Falcaria lacertinaria (L.), LY: Glommertrask, 29.vi, several in late evening light. TO: Jukkasjarvi, 01-05.vii, common in a large, relatively unmarked, form.

Geometridae

Macaria notata (L.), LY: Glommertrask, 29.vi, one netted.

Pygmaena fusca (Thunb.), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. One only.

Selenia dentaria (Fabr.), TO: Jukkasjarvi, 01-05.vii.

Parietaria vittaria (Thunb.), NB: Brandon, 30.vi, flying in open woodland near the sea. TO: Jukkasjarvi, 01-05.vii, common flying high and slowly along woodland edges.

Glacies coracina (Esper), TO: the lower slopes to the southeast of Abisco, 05.vii, one only seen in a rocky area. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. Abundant, seeming larger and more varied than those from Scotland.

Jodis putata (L.), LY: Glommertrask, 29.vi, common in early evening. TO: Jukkasjarvi, 01-05.vii, several seen.

Cyclophora albipunctata (Hufn.), LY: Glommertrask, 29.vi, one seen.

Scopula immorata (L.), Very frequent in many places including NB: Langsviksudden, 30.vi. NB: Near Person in flowery meadow, 12.vii. AN: Nasanget Nordingra, 13.vii. AN: Hogsnas, 13.vii.

Scopula ternata (Schrank), LY: Djupsjonas, 29.vi, several flying by roadside in light woodland. LY: Glommertrask, 29.vi, several in early evening. TO: Jukkasjarvi, 01-05.vii frequent. TO: Kalixfors, 02.vii, frequent. TO: Krokvik, 04-08.vi, also frequent. Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., one or two flying in p.m.

Scopula floslactata (Haworth), TO: Jukkasjarvi, 01-05.vii, one or two in early evening.

Idaea serpentata (Hufn.), NB: Near Person in flowery meadow, 12.vii., abundant. AN: Hogsnas, 13.vii., several.

Idaea pallidata (D.& S.), LY: Glommertrask, 29.vi, two seen.

Xanthorhoe abrasaria (H.- S.), TO: Jukkasjarvi, 01-05.vii, frequent. TO: Kalixfors, 02.vii, several seen in the afternoon. TO: Krokvik, 04.vi, a few. TO: the lower slopes to the southeast of Abisco, 05.vii, a few.

Xanthorhoe decoloraria (Esper), LU: near Bjorkberget, 01.vii. TO: Jukkasjarvi, 01-05.vii, frequent, flying in the wet rides. Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., one put up. NB: Langforsselet. Flying by roadside on 12.vii.

Xanthoroe spadicearia (D.& S.), LY: Glommertrask, 29.vi, several in early evening. TO: Jukkasjarvi, 01-05.vii, one or two. TO: the lower slopes to the southeast of Abisco, 05.vii, one taken. TO: Njulla mountain, to the west of Abisco, 07.vii, many put up as we walked back down to Bjorkliden.

Xanthoroe montanata (D.& S.) f. *lapponica* Stdgr., TO: Jukkasjarvi, 01-05.vii, three seen.

Xanthorhoe annotinata (Zett.), TO: Jukkasjarvi, 01-05.vii, common along the rides. TO: Kalixfors, 02.vii, one or two. TO: the lower slopes to the southeast of Abisco, 05.vii, one or two put up.

Entephria caesiata (D.& S.), Norway, TRI: coastal cliff top by road 15 km south of Alta, 09.vii., several amongst the rocks.

Chloroclysta infuscata (Tengström), TO: Jukkasjarvi, 01-05.vii, frequent.

Thera serraria (Lienig & Zeller), TO: Jukkasjarvi, 01-05.vii, this spectacular moth flew very high and very slowly, one had to follow them along the rides waiting for them to drop within reach of the five metre nets.

Hydriomena impluviata (D.& S.), TO: Jukkasjarvi, 01-05.vii, fairly frequent.

Hydriomena ruberata (Freyer), TO: Jukkasjarvi, 01-05.vii, a few in the rides.

Spargania luctuata (D.& S.), LY: Glommertrask, 29.vi, three seen. TO: Jukkasjarvi, 01-05.vii, several in the drier parts of the woods. TO: Kalixfors, 02.vii, many disturbed from birch in open dry woodland. TO: Krokvik, 04.vi, one put up in dry edge.

Rheumaptera hastata (L.), TO: Jukkasjarvi, 01-05.vii, two seen in a dry ride, appearing indistinguishable from those in the south of England. TO: the lower slopes to the southeast of Abisco, 05.vii, amongst dwarf birch.

Rheumaptera subhastata (Nolken), TO: Jukkasjarvi, 01-05.vii, two seen together with *hastata*. TO: Kalixfors, 02.vii, many disturbed from birch in open dry woodland. TO: Krokvik, 06.vi, one or two. TO: the lower slopes to the southeast of Abisco, 05.vii, very common. TO: Njulla mountain, to the west of Abisco, 07.vii, many put up as we walked back down to Bjorkliden.

Epirrita autumnata (Borkhausen), larvae seen abundantly from TO: Jukkasjarvi to TO: Abisco.

Psychophora sabini Kirby, Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. One only was seen flying with and resembling *G. coracina*.

Perizoma albulata (D.& S.), TO: the lower slopes to the southeast of Abisco, 05.vii, a few on waste land by the road.

Eupithecia satyrata (Hb.), LY: Glommertrask, 29.vi, several including one to wine rope. TO: Krokvik, 04.vi, one put up.

Eupithecia gelidata Möschler, TO: Jukkasjarvi, 01-05.vii, one or two noted.

Eupithecia virgaureata Doubleday, TO: Jukkasjarvi, 01-05.vii, a few, although the food plant which was frequent in some parts of Lappland was not noted here.

Notodontidae

Clostera pigra (Hufn.), TO: Jukkasjarvi, 01-05.vii, one or two.

Noctuidae

Acronicta auricoma (D.& S.), TO: Jukkasjarvi, 01-05.vii, one at wine ropes.

Polypogon tentacularia (L.), This species was put up during the day or flying in the evening in nearly all localities visited.

Lygephila pastinum (Tr.), VR: near Orebro, several visiting flowers at dusk by service station.

Autographa macrogamma (Eversmann), NB: Near Person in flowery meadow, 12.vii. One seen.

Syngrapha microgamma (Hb.), NB: Stavikudden, three miles north of the Polar Circle,01.vii, flying very fast in open, dry bog.

Syngrapha parilis (Hb.), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii.

Sympistis heliophila (Paykull). This species was first encountered at NB: Stavikudden, three miles north of the Polar Circle flying in open, dry bog, but was nearly ubiquitous thereafter in wet and dry bogs and on mountains including Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09 and 10.vii.

Hyppa rectilinea (Esper), TO: Jukkasjarvi, 01-05.vii and 11. vii, to baits, becoming more frequent at the later dates.

Chortodes elymi (Tr.), HS: Hornslandet beach, one at rest during abortive search for *Proxenus lepigone.*

Hadula (Calocestra) melanopa melanopa (Thunb.), Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. Flying commonly with *Z. exulans.*

Anarta cordigera (Thunb.), TO: Krokvik, 08.vii, several feeding on *Ledum* growing in wetter parts of the bog, about four o'clock in the afternoon.

Anartomima secedens (Walker), TO: Jukkasjarvi, 01-05.vii, a few noted flying high and fast but exposing a flash of yellow. TO: Krokvik, 08.vii, one secured on *Ledum* flowers in the afternoon. Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 09.vii. One seen.

Lasionycta skraelingia (H.- S.), TO: Jukkasjarvi, 01-05.vii, common but extremely difficult to net.

Diarsia mendica (Fabr.), TO: Jukkasjarvi, 01-05.vii, noted at bait and flowers but more common on 11.vii. TO: Krokvik, 08.vii, several on ledum in the afternoon. TO: the lower slopes to the southeast of Abisco, 05.vii, one quite high in the mountains disturbed in the afternoon.

Xestia (schoyenia) quieta (Hb.),Norway, TRI: 5 kms south of Gargia on limestone mountain tops at 1200 metres, 10.vii. Three secured flying fast and low like *D. melanopa.*

Xestia (Anomogyna) speciosa (Hb.) ssp. *arctica* (Zett.), TO: Jukkasjarvi, one on 05.vii, and two on 11.vii. Although these specimens follow the description in Noctuidae Europaeae 2, Michael Fibiger, *pers. com.,* throws some doubt on my subspecific identification as a smaller, darker form, which may be true *arctica,* flies on the coast at Nordcap in the extreme north of Norway.

Xestia (Anomogyna) borealis (Nordström), TO: Jukkasjarvi, 01-05.vii, three netted and a few others suspected to be this species.

Xestia (Anomogyna) laetabilis (Zett.), TO: Jukkasjarvi, one on 05.vii, and frequent on 11.vii.

Xestia (Anomogyna) distensa (Eversmann), TO: Jukkasjarvi, only on 11.vii when initially distinguished from *laetabilis* by behaviour.

Xestia (Anomogyna) gelida (Sparre-Schneider), TO: Jukkasjarvi, 01-11.vii, common, becoming more frequent to wine ropes later in the season.

Plate G. Alec Harmer on the summit of Mount Njulla against a background of the montane habitat where we were collecting amongst snow and in generally atrocious conditions.

Plate H. From left to right: AJP, Ludwig Weiss and Alec Harmer showing the long-handled nets and strange hats necessary for collecting at Jukkasjarvi!

Xestia (Anomogyna) alpicola alpicola (Zett.), TO: Jukkasjarvi, 04.vii, only one seen in a form that is very different from those in Scotland.
Xestia (Pachnobia) tecta (Hb.), TO: Jukkasjarvi, 11.vii, one only seen.

Lymantridae
Dicallomera fascelina (L.), TO: Krokvik, 04.vii, one larva.

Arctiidae
Phragmatobia fuliginosa (L.) ssp. *borealis* Stdgr., TO: Jukkasjarvi, 01-05.vii, two found at rest.
Parasemia plantaginis (L.), NB: Near Person in flowery meadow, 12.vii. Two seen, including *f. hospita* D.& S..
Diacrissia sannio (L.), This species seemed identical with those found in southern Europe and was seen in many of the localities visited.

Abraxus grossulariata (L.) (Lep.: Geometridae). Further records of larvae feeding on leaves of *Sedum spectabile*

I was most interested to read Michael Easterbrook's observation of Magpie Moth *Abraxas grossulariata* feeding on leaves of *Sedum spectabile* (*Ent. Rec.* **117**: 64). I have observed this once only, in my garden on 5 June 1988, when I noticed some frass on my *Sedum spectabile.* On further examination I found the leaves had been eaten and a number of Magpie Moth larvae were present. A few days later, my colleague R. H. Heath, who lives a short distance away, also found a larvae in his garden on *S. spectabile* (see *Bulletin of the Amateur Entomologists' Society* **48**: 68).

The usual foodplants of this species are currant and gooseberry (*Ribes* species), both plentiful in our gardens. Why *Sedum spectabile* was chosen in 1988 remains a mystery. P.B.M. Allan, in his 1979 book, *Larval Foodplants,* does give the related orpine *Sedum telephium* as a foodplant, so other *Sedum* species may perhaps also be utilised. The late H.W. Daltry of Madely, Lepidoptera Recorder for Staffordshire from 1924 to 1950, wrote that in spite of having many currant and gooseberry bushes in his garden, he found the Magpie Moth to be rare over this period in his garden, yet it could be found on Sloe bushes growing in hedgerows and was quite common in the area. In the past I have found Magpie Moth larvae on Blackberry *Rubus fruticosus* agg. and in 1992 my friend Derek Heath and myself visited Wetley Moor, Staffordshire and found larvae on heather *Calluna vulgaris.* The moth is quite rare in the moorlands of Staffordshire. Also of interest, Brian O.C. Gardiner, former editor of the AES *Bulletin* wrote in 1989 (*Bull. Ament. Soc.* **48**: 68) "Curiously enough, I have never found Magpie larvae on anything except various species of *Euonymous.* Perhaps differing foodplants are selected in different parts of the country".– Jan Koryszko, 3 Dudley Place, Meir, Stoke-on-Trent, Staffordshire ST3 7AY.